

REMARKS/ARGUMENTS

The Examiner states that Applicant's arguments in the Appeal Brief vis-a-vis Claim 1 were persuasive and therefore the rejection of claim 1 (and presumptively its dependent claims) is withdrawn. But then the Examiner turns around and makes a new rejection citing the same figures in the same prior art references and apparently either dropping arguments or incorporating them from the prior official action with some additional commentary. All of this unfortunately makes the Examiner's rationale for current rejections anything but clear.

As stated in the Appeal Brief, "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" The obviousness analysis "should be made explicit." See *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007).

Claim 1 - the use of Orenstein's figures 5d and 3a together

The Examiner states in the Official Action "The Examiner agrees with the Applicant that the use of both figures 5d and 3a in making the rejection is not proper." Well that seems explicit enough, but then the Examiner enters a new rejection in which he again relies on both figures 5d and 3a! Well if the use of those two figures is "not proper" to quote the Examiner, then why is applicant faced with a new rejection again based on figures 5d and 3a?

Figure 3a of Orenstein shows in a plan view an embodiment of his invention. Figure 5d of Orenstein shows both a plan view and a side elevational view of another embodiment of his invention. The Examiner cites the side view of figure 5d and the plan view of figure 3a and basically assumes that they both refer to the embodiment of figure

3a. That assumption is unwarranted since Orenstein tells the reader that these are different embodiments.

Orenstein shows only one embodiment with a Bragg grating plus a microring resonator. This is the embodiment of Fig. 3A. The other embodiments of Orenstein have no Bragg grating and two microring resonators (see Figs. 3B - 5E) or other structures such as those shown in Figs. 6 and beyond. The Examiner concedes that Orenstein appears to be most concerned with utilizing microrings exclusively [see Final Rejection, p. 3, next to last paragraph], but notes the existence of the embodiment of Fig. 3A of Orenstein were a grating is taught. The problem here is that the Examiner does not confine his analysis to the embodiment of Fig. 3A, but rather relies on the double microring embodiment of Fig. 5D to try to meet the language of the Claim 1, for example. But claim 1 requires a grating, so Fig. 5D is not really on point. The Examiner assumes that Fig. 5D can somehow be modified to make it relevant to the claims in this application. Just what are those modifications and why are they justified? There must be some articulated reasoning with some rational underpinning to support the mixture of embodiments relied upon by the Examiner. Yet there is none. The Examiner continues to mix embodiments at will.

Claim 1: "ON" versus "WITHIN"

On page 3 of the official action of August 16, 2007, the Examiner reads the recited "gain element" of claim 1 on Orenstein's waveguide (WG) laser and the Examiner reads the recited "first optical path" also on Orenstein's waveguide (WG) laser. As pointed out by the Applicant in a response dated December 17, 2007, claim 1 specifically recites, *inter alia*:

a gain element, having an optical output, the gain element having a body of material different than said integration platform, being disposed on said integration platform; [and]

a first optical path receiving optical output from said gain element, said first optical path comprising a silica waveguide within said integration platform ... [emphasis added]

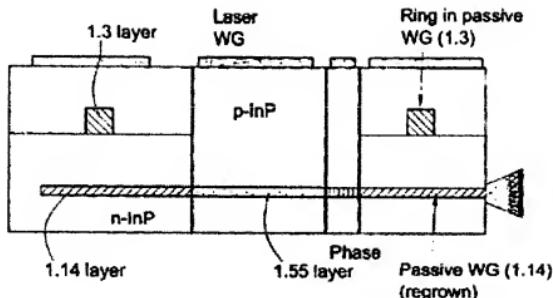
It is to be noted that the recited gain element of claim 1 is "disposed on said integration platform" while the recited first optical path receiving optical output from said gain element is "within said integration platform". This is fully supported by Applicant's disclosure where the gain element (20) is shown ON the integration platform while the first optical path (101) is described as WITHIN the integration platform.

In the current official action, the Examiner ignores this issue, but in the Final Rejection of March 17, 2008, the Examiner addresses these distinctions by asserting:

"The integration platform of Orenstein can be interpreted as being the substrate as well as the burying materials on top of the substrate and surrounding the waveguides. Therefor, the gain material is on the platform (substrate portion) while the waveguides are in the platform (buried portion)." (see page 2 of the Final Rejection).

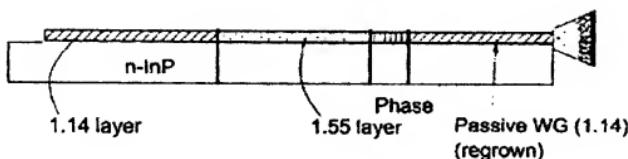
This assertion is simply not tenable. The Examiner, when interpreting Applicant's claims, must take positions which are consistent. The Examiner is not permitted to take the inconsistent positions that an element of claim 1 can be read on a particular prior art structure in a prior art reference in one part of claim 1 and then assert that the very same recited element may be read on a different structure in the same prior art reference when the limitation appears elsewhere in claim 1.

For the purpose of asserting that the recited first optical path receiving optical output from said gain element is "within said integration platform" as claimed, the Examiner points to the full cross section of Fig 5D of Orenstein which is reproduced below:



The passive waveguide (WG) on the bottom of this figure is considered by the Examiner as meeting the second requirement of claim 1 noted above ("a first optical path receiving optical output from said gain element, said first optical path comprising a silica waveguide within said integration platform").

But when it comes to the first requirement of a "gain element, having an optical output, the gain element having a body of material different than said integration platform, being disposed on said integration platform" the Examiner essentially modifies Figure 5D of Orenstein by stripping off the layers above the passive WG layer, as shown in the modified version of Fig. 5D reproduced below:



The Examiner states that the Passive WG (waveguide) is ON the substrate when reading the gain element limitation of claim 1 on Orenstein, but then the Passive WG is WITHIN the substrate when reading the first optical path limitation of claim 1 on Orenstein.

The Examiner cannot have it both ways. He must stick to a single interpretation of this prior art reference when rejecting claim 1. Yamada does not address this deficiency of Orenstein. Orenstein's WG (waveguide) is conceptually either on or within his substrate, but it is not in both places at the same time!

If the Examiner believes that claim 1 is unclear in this regard, that is, that it can be interpreted as having two different constructions, then the Examiner's recourse is to reject the claim under 35 USC § 112, second paragraph. See *In re Kenicki Miyazaki* decided November 19, 2008 (copy attached).

Claim 1 also recites that "said tunable microresonator" has "a body of material different than said silica waveguide and being disposed on said integration platform..." In Orenstein the tunable microresonator is INSIDE Orenstein's substrate, and not "on said integration platform" as claimed. See Fig. 5D of Orenstein. The Examiner's analysis does not deal with this limitation.

The rejection of claim 1 and the rejected claims dependent thereon (claims 3-9 and 31-32) is improper since Orenstein does not teach that which the Examiner asserts it teaches relative to these claims. Orenstein simply does not meet the limitations of claim 1 and Yamada cited by the Examiner does not meet these missing limitations either!

The improper obviousness rejection of claims 1, 5-10, 13-16, 29 and 31-39

The rejection of claims 1, 5-10, 13-16, 29 and 31-39 is based on an asserted obviousness rejection based on Orenstein and Yamada. The Examiner's rationale for combining these two patent disclosures can be found on page 5 of the Final Rejection.

Of course, 35 U.S.C. § 103 "forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" KSR *Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The Court stated that obvious analysis "should be made explicit." Id. at 1740-41, citing *In re Kahn*, 441 F.3d 977,988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").

The Examiner does not provide an "articulated reasoning with some rationale underpinning" for combining these two disclosures. The Examiner states that the reason for combining these two disclosures is "to allow for heat dissipation through the substrate". [See page 4 of the current official action].

The Examiner seems to imagine some heat issue associated with Orenstein's disclosure that a person skilled in the art would be motivated to deal with. The Applicant has previously challenged the Examiner to state for the record why a person skilled in the art would believe that Orenstein has a heat disposition problem which needs to be addressed. This the Examiner has declined to do. The Examiner instead chooses to rely on his conclusory statements in spite of the Supreme Court's requirements to the contrary.

Not only does the Examiner ignore the requirements of the Supreme Court, he also ignores that fact the Orenstein seems to suggest that there is no heat issue associated with his invention. Orenstein tells the reader twice that "a very small amount of power (current) is required." See Col. 3, ll. 59-63 and Col. 4, ll. 54-56 of Orenstein.

The Examiner also states that it would be obvious to use silicon for the substrate and waveguides since silica optical fibers are well known in the art. The Examiner overlooks the fact that Orenstein's InP laser is buried in his InP substrate. Why dispose an InP Laser on a silicon substrate? That just complicates the design for no reason. The Examiner also suggests that silicon is a "wide frequency waveguide material". Is this compared to Orenstein's InP? See Page 5 of the Final Rejection. Whatever this statement means, it is an off-hand factual assertion for which there is no factual support in the record. And it is the sort of conclusory analysis which the Supreme Court says Examiners should not be engaging in.

And also noted above, the Examiner mixes embodiments from Orenstein as if they were some unified single embodiment. This point has been discussed above in connection with the embodiments of Figs. 3A and 5D, but it bears mentioning again since this is another instance of the Examiner relying on some conclusory analysis as opposed to considering what the prior art really teaches.

Claim 10 - UV-induced sample grating limitation

Claim 10 is a method claim. It recites, *inter alia*, a "method for reconfiguring a wavelength of a laser comprising the steps of: providing an integration platform formed of silicon; [and] coupling a tunable microresonator having a passband to a fixed grating having a plurality of reflection peaks via a silica waveguide in said integration platform, said silica waveguide including a UV-induced sampled grating ..."

The Examiner refuses to give patentable weight to the limitation "a UV-induced sampled grating" asserting that "these claims are product by process claims, where the process limitations are not limiting". [See page 5 of the current official action].

Since claim 10 is a method claim, not a product by process claim, full weight should be given the limitation of "a UV-induced sampled grating". Since the Examiner admits that claim 10 is not fully met by the asserted combination of Orenstein and Yamada (which is an invalid combination for the reasons already asserted above), the

Examiner's rejection is legally insufficient. Applicant respectfully requests withdrawal of the rejection of claim 10.

Claim 10 - other limitations not accounted for in the Examiner's Analysis

Claim 10 also recites "coupling a tunable microresonator having a passband to a fixed grating having a plurality of reflection peaks via a silica waveguide in said integration platform" and "tuning said tunable microresonator such that the passband of said tunable microresonator is aligned with one of said plurality of reflection peaks of said fixed grating." The Examiner fails to show where Orenstein discloses "a tunable microresonator having a passband" or where Orenstein teaches "tuning said tunable microresonator such that the passband of said tunable microresonator is aligned with one of said plurality of reflection peaks of said fixed grating."

The Examiner tells the applicant that claim 10 is rejected for the very same reasons as claims 1 and 9 and then does not bother to deal with limitations, such as those discussed immediately above, found in claim 10, but which do not appear in either claims 1 or 9.

The Examiner cannot ignore limitations found in claims just because that makes it convenient for him to reject those claims. The Examination of this application has been very improper. The rejections of claim 10, and claims 11 and 13-16 dependent thereon are improper based on the cited art.

Claims 29 and 31-39

The rejections of claims 29 and 31-39 are discussed above relative to the obviousness rejection.

Claims 3 and 11

The rejection of claims 3 and 11 rejection can be found on page 5 and 6 of the current official action. The Examiner cites col. 5, ll. 60-64 of Soref and asserts that based thereon it would be obvious to replace the microring of Orenstein with Soref's microdisk to "obtain a more favorable contact geometry."

Soref teaches the use of many dual microrings 6,8 wired in a cross connect switch configuration. These microrings are either on or off to selected frequencies. High control currents (200 Amperes per sq. cm) are discussed and Soref gets into a discussion of a better contact geometry due to these high currents in his cross bar switches.

However, it is to be recalled that Orenstein touts the fact that his device works at low power (low current). The justification for combining these references is merely conclusory; the Examiner intimates a person would be motivated by a desire for favorable contact geometry, yet provides no rationale of why such a goal would exist or how such a goal leads to the combination of Soref's cross connect switch with Orenstein's low power tunable communications laser. Yes, Soref is concerned with favorable contact geometry, apparently due to his high current application, but Orenstein is not, he is working on a low current application. The Examiner has not made a *prima facie* case of obviousness. The applicant respectfully requests the rejection be overturned.

Claims 17, 19-23, 26, 29 and 33

This rejection is discussed on pages 6-7 of the current official action. The Examiner cites Tanaka for its teaching of a silicon waveguide where the grating is written directly on the waveguide, the Examiner citing Fig. 1 of Tanaka.

While Tanaka teaches writing a grating on a waveguide using an excimer laser, that teaching does not overcome the issues noted above relative to the Examiner's stated rationale for combining Orenstein and Yamada. Orenstein and Yamada cannot be

properly combined for the reasons already stated and adding either or both Soref and Tanaka to the mix do not address the basic deficiencies in the Examiner's logic in combining Orenstein and Yamada.

Rule compliance

The Applicant has requested the Examiner's cooperation in complying with the rules of practice. Full compliance with 37 CFR 1.104 is again requested. All factual assertions must be placed in affidavit format and the applicant must be given the privilege by relying by filing counter affidavit(s). Any rejections must be made in the manner required by 37 CFR 1.104. If need be, a pre-appeal brief conference will be requested in order to obtain full compliance with the rules of practice.

Reconsideration is respectfully requested.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

Response to Non-Final Rejection

Dated 17 December 2008

Re: USN 10/766,103

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I hereby certify that this paper (and any enclosure referred to in this paper) is being transmitted electronically to the United States Patent and Trademark Office on

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Stacey Dawson
(Name of Person Transmitting)

/Stacey Dawson/
(Signature)

March 17, 2009
(Date)

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Attachment:
In re Kenichi Miyazaki decided November 19, 2008

PRECEDENTIAL OPINION

Pursuant to Board of Patent Appeals and Interferences Standard Operating Procedure 2, the opinion below has been designated a precedential opinion.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte KENICHI MIYAZAKI

Appeal 2007-3300
Application 09/386,000
Technology Center 3600

Decided: November 19, 2008

Before MICHAEL R. FLEMING, *Chief Administrative Patent Judge*, ALLEN R. MACDONALD, *Vice Chief Administrative Patent Judge*, WILLIAM F. PATE, III, JENNIFER D. BAHR, and LINDA E. HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Kenichi Miyazaki (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-6, 13, 15-18, 26, and 31, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

The Invention

The Appellant's claimed invention is to a large printer that employs roll paper (Spec. 1:5-6). Claims 1, 13, 15, and 26 reproduced below, are representative of the subject matter on appeal.

1. A large printer comprising:

a paper feeding unit operable to feed at least one roll of paper, at least one substantially flat sheet of paper and at least one stiff carton, the paper feeding unit being located at a height that enables a user, who is approximately 170 cm tall, standing in front of the printer to execute the paper feeding process including replacement of the roll paper and setting at least one of the sheet of paper and the stiff carton;

a printing unit located below the paper feeding unit,

a discharged paper stacking unit located below the printing unit; and

a paper feeding path extending in a substantially straight line from the paper feeding unit to the discharged paper stacking unit via the printing unit.

13. A large printer comprising:

a sheet feeding area positioned at a height at which a user, who is approximately 170 cm tall, can set up a printing medium without having to bend substantially at the waist when the user is standing erect in front of the printer and standing substantially at ground level,

wherein the sheet feeding area is positioned at the height when the printer is placed substantially at the ground level.

15. A large printer comprising:

a sheet feeding area operable to feed at least one roll of paper, at least one sheet of paper and at least one stiff carton toward a printing unit at which printing is performed thereon; and

a cover member, which covers a first feeding path for the roll of paper from above, and which supports at least one of the sheet of paper and the stiff carton from below to constitute a part of a second feeding path for the sheet of paper,

wherein the cover member extends linearly from an upstream portion thereof to a downstream portion thereof in connection with a direction in which at least one of the sheet of paper and the stiff carton is fed at the sheet feeding area, and

wherein the cover member is disposed between at least one of the sheet of paper and the stiff carton and the roll of paper at a location in the sheet feeding area at which the roll of paper is in a rolled shape.

26. A large printer comprising:

a sheet feeding area operable to feed a plurality of paper rolls ranging in width from 210 mm to 1120 mm, a substantially flat sheet of paper ranging in length from 420 mm to 1580 mm and at least one stiff carton ranging in length from 420 mm to 730 mm.

The Rejections

The Examiner relies upon the following as evidence of unpatentability:

McCullley	US 938,885	Nov. 2, 1909
Smedal	US 1,128,730	Feb. 16, 1915
Hageman	US 2,300,276	Oct. 27, 1942
Metzner	US 2,904,332	Sep. 15, 1959
Yamada	US 5,838,354	Nov. 17, 1998
Takumi	JP 63-154558	Jun. 27, 1988
Orbons	EP 0 727 375 A1	Aug. 21, 1996

Brochure entitled, *AO Size Oily Color Ink-Jet Plotter IP-4000*, Seiko Instrument, Inc. (Jun. 1997) (hereinafter “IP-4000 device”).

MicroStation Manager Web page posted at <http://archive.msmonline.com/1997/12/products.html>, offering the OCE 9400 device for sale, pp. 1-7 (Dec. 1997) (hereinafter “MSM On-Line printout”).

Web page posted at <http://www.digital-es.com/o9400.htm>, showing specifications for the OCE 9400 device (Jul. 2004) (hereinafter “Digital ES publication”).

The following Examiner’s rejections are before us for review:

1. Claims 1-6, 13, and 16-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and

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distinctly claim the subject matter which applicant regards as the invention.

2. Claims 1, 5, 6, 16, 26, and 31 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yamada.
3. Claims 13, 18, 26, and 31 are rejected under 35 U.S.C. § 102(b) as being anticipated by Orbons.
4. Claims 13, 17, 18, 26, and 31 are rejected under 35 U.S.C. § 102(b) as being anticipated by the IP-4000 device.
5. Claims 1, 3, 5, 6, 13, 17, 18, 26, and 31 are rejected under 35 U.S.C. § 102(b) as being anticipated by the OCE 9400 device, as described in the MSM On-Line printout and the Digital ES publication.
6. Claims 16, 26, and 31 are rejected under 35 U.S.C. § 102(b) as being anticipated by Takumi.
7. Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada and Orbons.
8. Claims 13 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McCulley and Smedal.
9. Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hageman and Metzner.

SUMMARY OF DECISION

We AFFIRM-IN-PART and ENTER NEW GROUNDS OF REJECTION PURSUANT TO OUR AUTHORITY UNDER 37 C.F.R. § 41.50(b).

ISSUES

The Examiner rejected claims 1-6, 13, and 16-18 because the recitations in the claims relating the height of the paper feeding unit and the sheet feeding area to a user's height are unclear (Ans. 3-4). The Appellant contends that the claims are sufficiently definite in that "to ascertain whether a large printer is infringing [claim 1], one need ascertain, *inter alia*, whether the large printer has a paper feeding unit that is located at a height that would allow a user, who is approximately 170 cm tall and standing in front of the large printer, to execute a paper feeding process" (App. Br. 15). One issue before us is whether the Appellant has shown that the Examiner erred in concluding that the language of claims 1-6, 13, and 16-18 is indefinite because the manner in which the claims recite the height of the paper feeding unit and/or the sheet feeding area in relation to a user's height is ambiguous when the claims are read in light of the Specification.

The wording of the claims also raises two additional issues that we address in new grounds of rejection. The first issue is whether the recitation of a "sheet feeding area" in claims 13, 15, 16, 18, and 26 is sufficiently definite such that those skilled in the art would understand what is being claimed when the claims are read in light of the Specification. A second issue before us is whether the recitation of a "sheet feeding area operable to feed ..." in claims 15 and 26 is a purely functional recitation with no limitation of structure.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Claim 1 recites “the paper feeding unit being located at a height that enables a user, who is approximately 170 cm tall, standing in front of the printer to execute the paper feeding process including replacement of the roll paper and setting at least one of the sheet of paper and the stiff carton.”
2. The Appellant’s Specification does not clearly impose a structural limitation on the height of the paper feeding unit of the claimed printer. The Specification describes the height of the paper feeding unit using the same language as used in claim 1, and does not describe a positional relationship between the user and the printer (see e.g., Spec. 3:8-11 and 14:13-16).
3. Figure 1 of Appellant’s Specification shows only a preferred embodiment in which both the user and the printer are at ground level. The Appellant’s Specification describes that Figure 1 is “a schematic vertical section view showing a state wherein a user replaces a paper roll for a large printer according to the present invention” and that the figures show a “preferred embodiment” (Spec. 8:24-25 and 9:16-17). We interpret this description of Figure 1 to mean that the positional relationship between the user

and printer shown in the figure is only one of many possible states in which a user can replace a paper roll in the printer.

4. Each of independent claims 3 and 4 recites “the paper feeding unit being located at a height that enables a user standing in front of the printer to execute the paper feeding process including replacement of the roll paper and setting at least one of the sheet of paper and the stiff carton.”
5. Each of independent claims 16 and 18 recites “a sheet feeding area positioned at a height at which a user, who is approximately 170 cm tall, standing in front of the printer can set up a printing medium without having to bend substantially at the waist, wherein the sheet feeding area is positioned at the height when the printer is placed substantially at ground level.”
6. Independent claim 13 recites “a sheet feeding area positioned at a height at which a user, who is approximately 170 cm tall, can set up a printing medium without having to bend substantially at the waist when the user is standing erect in front of the printer and standing substantially at ground level, wherein the sheet feeding area is positioned at the height when the printer is placed substantially at the ground level.” Claim 13 recites that both the user and the printer are “substantially at ground level.”

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PRINCIPLES OF LAW

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

ANALYSIS

Rejection of claims 1-6, 13, and 16-18 under 35 U.S.C. § 112, second paragraph

The Federal Circuit has held in post-issuance patent infringement cases that the definiteness requirement “does not compel absolute clarity” and “[o]nly claims ‘not amenable to construction’ or ‘insolubly ambiguous’ are indefinite” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations omitted). See also *StarScientific, Inc. v. R.J. Reynolds Tobacco Co.*, Appeal No. 07-1448, slip. op. at 22 (Fed. Cir. August 25, 2008) (“A claim term is not indefinite just because ‘it poses a difficult issue of claim construction.’”) (quoting *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001)). The Federal Circuit has noted that such a high standard of ambiguity for finding indefiniteness is due to the statutory presumption of patent validity. *Exxon Research*, 265 F.3d at 1375 (“By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory

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presumption of patent validity.”) *See also Modine Mfg. Co. v. U.S. Int’l Trade Comm’n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (rejecting indefiniteness argument after construing claims; stating that “when claims are amenable to more than one construction, they should when reasonably possible be interpreted to preserve their validity”); and *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996) (court chose the narrower of two equally plausible claim constructions in order to avoid invalidating the claims).

This rule of reading claims narrowly in view of ambiguity runs counter to the USPTO’s broader standard for claim construction during prosecution. In particular, unlike in post-issuance claim construction, the USPTO gives pending claims “their broadest reasonable interpretation consistent with the specification” and “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). This broader claim construction standard is justified because, during prosecution, the applicant has the opportunity to amend the claims, and the Federal Circuit has held that an applicant has the opportunity and the obligation to define his or her invention precisely during proceedings before the USPTO. *See In re Morris*, 127 F.3d 1048, 1056-57 (Fed. Cir. 1997) (35 U.S.C. 112, second paragraph, places the burden of precise claim drafting on the applicant); *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989) (manner of claim interpretation that is used by courts in litigation is not the manner of claim interpretation that is applicable during prosecution of a pending application before the USPTO).

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As set forth in the MPEP:

USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted “in view of the specification” without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989) (“During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”).

MPEP § 2106 (II) (Parallel citations omitted). As such, we employ a lower threshold of ambiguity when reviewing a pending claim for indefiniteness than those used by post-issuance reviewing courts. In particular, rather than requiring that the claims are insolubly ambiguous, we hold that if a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under

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35 U.S.C. § 112, second paragraph, as indefinite.

The USPTO, as the sole agency vested with the authority to grant exclusionary rights to inventors for patentable inventions, has a duty to guard the public against patents of ambiguous and vague scope. Such patents exact a cost on society due to their ambiguity that is not commensurate with the benefit that the public gains from disclosure of the invention. The USPTO is justified in using a lower threshold showing of ambiguity to support a finding of indefiniteness under 35 U.S.C. § 112, second paragraph, because the applicant has an opportunity and a duty to amend the claims during prosecution to more clearly and precisely define the metes and bounds of the claimed invention and to more clearly and precisely put the public on notice of the scope of the patent.

As the Federal Circuit recently stated in *Halliburton Energy Servs.*:

When a claim limitation is defined in purely functional terms, the task of determining whether that limitation is sufficiently definite is a difficult one that is highly dependent on context (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area). We note that the patent drafter is in the best position to resolve the ambiguity in the patent claims, and *it is highly desirable that patent examiners demand that applicants do so in appropriate circumstances* so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.

Halliburton Energy Servs. v. M-ILLC 514 F.3d 1244, 1255 (Fed. Cir. 2008) (emphasis added).

Also, the requirement that the applicant clearly and precisely set out the metes and bounds of the claimed invention prior to completion of examination of the patentability of the claims furthers the USPTO's duty to issue valid patents. A fundamental principle of patent law is that the claims measure the invention. *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 232 (1942). The duty of the PTO is to issue valid claims upon whose language the public can rely. *See Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U.S. 274, 278 (1877) ("[In the Patent Office, applicant's] claim is, or is supposed to be, examined, scrutinized, limited, and made to conform to what he is entitled to."); *Burns v. Meyer*, 100 U.S. 671, 672 (1880); *Graham v. John Deere Co.*, 383 U.S. 1, 18 (1966) ("[T]he primary responsibility for sifting out unpatentable material lies in the Patent Office. To await litigation is--for all practical purposes--to debilitate the patent system.").

We realize that our reviewing court has never before set forth a different standard of review for indefiniteness under 35 U.S.C. § 112, second paragraph, for pre-issuance pending claims as compared with post-issuance patented claims. The Federal Circuit has, however, noted that a different standard for indefiniteness may be appropriate during prosecution of patent claims. *See Exxon Research and Engineering Co. v. U.S.*, 265 F.3d 1371, 1384 (Fed. Cir. 2001) ("If this case were before an examiner, the examiner might well be justified in demanding that the applicant more clearly define U_L , and thereby remove any degree of ambiguity. However, we are faced with an issued patent that enjoys a presumption of validity.") Accordingly, we adopt this lower threshold standard of ambiguity for indefiniteness for

claims during prosecution in keeping with the USPTO's broadest reasonable interpretation standard for claim construction.

The language of claim 1 attempts to claim the height of the paper feeding unit in relation to a user of a specific height who is performing operations on the printer (Fact 1). Claim 1 fails to specify, however, a positional relationship of the user and the printer to each other. For example, claim 1 does not recite where the printer is located or where, relative to the ground, the user is standing. As such, the printer of claim 1 could be positioned on a table or a platform and/or the user could be standing on something other than the ground, such as a step stool. An infinite number of combinations of printer and user positions could be envisioned such that the above-recited language of claim 1 does not, in fact, impose a structural limitation on the height of the paper feeding unit of the claimed printer. As a result, claim 1 fails to delineate any height requirement for the paper feeding unit despite purporting to do so. The Appellant's Specification also does not clearly impose such a positional relationship between the user and the printer to the language of claim 1 (Fact 2). We decline to read the preferred embodiment depicted in Figure 1 into the claim, because the claim language is broader than the embodiment, and the preferred embodiment implies that other embodiments may satisfy the claim (Fact 4). *See Superguide Corp. v. DirectTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the

claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”)

The Appellant argues that the height limitation at issue in claim 1 is analogous to the limitation of claim 1 at issue in *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565 (Fed. Cir. 1986). Claim 1 in *Orthokinetics* related to a wheel chair and recited that the front leg portion of the chair “is so dimensioned as to be insertable through the space between the doorframe of an automobile and one of the seats thereof.” *Id.* at 1568. The Federal Circuit held the “so dimensioned” limitation is definite under 35 U.S.C. § 112, second paragraph, and noted that the claims require “that one desiring to build and use a travel chair must measure the space between the selected automobile’s doorframe and its seat and then dimension the front legs of the travel chair so they will fit in that particular space in that particular automobile.” *Id.* at 1576. The court noted the fact that “a particular chair on which the claims read may fit within some automobiles and not others is of no moment.” *Id.* The Appellant argues that the present claim 1, similar to the claim in *Orthokinetics*, permissibly “defines the dimension or height of the paper feeding unit of the printer by referring to something (*i.e.*, a user), which is external to the printer” (Reply Br. 7). The difference between the claim in *Orthokinetics* and the claims before us is that the claim in *Orthokinetics* defined the dimension of the front leg of the wheel chair by reference to a well defined reference area (*i.e.*, the space between the doorframe and seat of an automobile). In the present claims,

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because the relative position of the user and the printer are not well-defined in the claim, the claimed height of the paper feeding unit does not present a structural limitation on the height at all.

Accordingly, we agree with the Examiner that the language of claim 1 is not sufficiently definite such that those skilled in the art would understand what is being claimed when the claim is read in light of the Specification. Likewise, claims 2, 5, and 6 fail to define a positional relationship between the user and the printer and thus are also indefinite by virtue of their dependency from claim 1.

Each of independent claims 3, 4, 16, and 18 fails to recite any positional relationship between the user and the printer and thus fails to impose any restriction on the height of the paper feeding unit or sheet feeding area. In particular, the language of claims 3 and 4 is broader than claim 1 because it omits the limitation that the user is approximately 170 cm tall (Fact 4). In all other respects, the language of claims 3 and 4 defining the height of the paper feeding unit is the same as claim 1 and thus fails to impose any limitation on the height of the paper feeding unit. The language of claims 16 and 18 is slightly narrower than claim 1 because it requires that “the sheet feeding area is positioned at the height when the printer is placed substantially at ground level” (Fact 5). Claims 16 and 18, however, fail to impose any restriction on where the user is standing (Fact 5). As such, claims 16 and 18 still fail to impose any restriction on the height of sheet feeding area. Thus, claims 3, 4, 16, and 18 suffer from the same indefiniteness problem as claim 1.

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Independent claim 13 cures the problem discussed above in that it recites that both the user and the printer are “substantially at ground level” (Fact 6). Claim 13, however, suffers from another problem in that it is unclear what is meant by a “sheet feeding area,” as explained *infra* in the New Grounds of Rejection. Thus, we will sustain the Examiner’s rejection of claim 13, and claim 17 which depends from claim 13, based on the reasoning set forth below and will designate our affirmance as a new ground of rejection.

NEW GROUNDS OF REJECTION

We enter a new ground of rejection of claims 13, 15-18, 26, and 31 under 35 U.S.C. § 112, second paragraph, and a new ground of rejection of claims 15, 26, and 31 under 35 U.S.C. § 112, first paragraph. The following additional findings of fact are pertinent to the new grounds of rejection.

ADDITIONAL FINDINGS OF FACT

7. The Appellant’s Specification describes the “sheet feeding area” as follows:

According to the present invention, there is also provided a large printer comprising: a sheet feeding area positioned at a height whereat a user standing in front of the printer is about to set up a printing medium.

In the printer, a plurality of paper rolls are loaded in the sheet feeding area so as to be

arranged obliquely with each other in the vertical direction.

In the printer, the printing medium includes at least one roll of paper and at least one sheet of stiff carton. The sheet feeding area includes an accommodation space in which the paper roll is loaded and a cover member for covering the accommodation space from thereabove and for supporting the stiff carton from therebelow.

(Spec. 7:6-15.) From this description, we understand the phrase "sheet feeding area" to refer to two areas on the printer, *viz*, the accommodation space in which the paper roll is loaded and the cover member above the accommodation space on which the stiff carton and sheets of paper rest for feeding into the printer.

8. Claim 15, however, belies this understanding in that it claims a large printer comprising a sheet feeding area and a cover member. If the sheet feeding area were meant to include both the accommodation space into which the paper rolls are loaded and the cover member on which the sheets of paper and stiff carton are loaded, as described in the Specification, then the recitation of a cover member in claim 15 would be redundant to the recitation of sheet feeding area. We surmise then from claim 15 that the recitation of sheet feeding area is broader than the embodiment disclosed in the Appellant's Specification. Thus, we must consider the ordinary meaning of the words of the claimed phrase.
9. The word "sheet" potentially refers to the sheets of paper being loaded into the printer, as opposed to other types of paper, i.e., the

stiff carton or the paper rolls, discussed in the Specification. In particular, the Specification and the claims describe three types of paper: (1) paper rolls, (2) sheets of paper, and (3) stiff carton, and distinguish between the parts of the printer set aside for feeding paper rolls (i.e., the spindle receptacles 1a and 1b) and the part of the printer set aside for feeding the sheets of paper and the stiff carton (i.e., the paper roll cover 28) (Spec. 12:3-22 and Figs. 2 and 3).

10. The ordinary meaning of the word “area” includes “a distinct part or section, as of a building, set aside for a specific function.” *The American Heritage Dictionary of the English Language* (4th ed. 2000).
11. Thus, using the ordinary meanings of “sheet” and “area,” we understand the phrase “sheet feeding area” to refer to the part of the printer set aside for feeding sheets of paper into the printer. According to the Specification, the part of the printer set aside for feeding sheets of paper into the printer is the cover member (Facts 8 and 10).
12. Claims 15 and 26, however, belie this understanding in that they claim that the sheet feeding area is “operable to feed” all three types of paper, and the cover member disclosed in the Specification is not operable to feed the paper rolls.
13. Thus, the claimed “sheet feeding area” is amenable to two possible definitions. Based on the description provided in the

Specification, “sheet feeding area” could be interpreted to mean the accommodation space in which the paper roll is loaded and the cover member above the accommodation space on which the stiff carton and sheets of paper rest for feeding into the printer (Fact 7). Based on the ordinary meaning of the words in the phrase, “sheet feeding area” could be interpreted to mean the part of the printer set aside for feeding sheets of paper into the printer, i.e., the cover member (Facts 9-11). Neither of these definitions makes sense in view of the remainder of the claims (Facts 8 and 12). Thus, neither the Specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what Appellant intends to cover with this claim language.

14. Claims 15 and 26 recite, “a sheet feeding area operable to feed” The remainder of each recitation describes the particular paper being fed. As such, claims 15 and 26 have defined the element “sheet feeding area” in terms of the function it is intended to perform, *viz.*, feeding specific types of paper. The Appellant has failed, however, to use “means for” in the recitation of these claim elements.

Rejection under 35 U.S.C. § 112, second paragraph

We enter a new ground of rejection of claims 13, 15-18, 26, and 31 under 35 U.S.C. § 112, second paragraph, because the use of the phrase “sheet feeding area” renders the claims indefinite. The claimed “sheet

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“feeding area” is amenable to two plausible definitions (Fact 13). Based on the description provided in the Specification, “sheet feeding area” could be interpreted to mean the accommodation space in which the paper roll is loaded and the cover member above the accommodation space on which the stiff carton and sheets of paper rest for feeding into the printer (Fact 7). Based on the ordinary meaning of the words in the phrase, “sheet feeding area” could be interpreted to mean the part of the printer set aside for feeding sheets of paper into the printer, i.e., the cover member (Facts 9-11). Neither of these definitions makes sense in view of the remainder of the claims (Facts 8 and 12). Thus, neither the Specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what Appellant intends to cover with this claim language.

Due to the ambiguity as to what is intended by the claimed “sheet feeding area” and the fact that this claim element is amenable to two or more plausible claim constructions, we enter a new ground of rejection of claims 13, 15-18, 26 and 31 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Appellant considers to be the invention.

Rejection under 35 U.S.C. § 112, first paragraph (scope of enablement)

We enter a new ground of rejection of claims 15, 26, and 31 under 35 U.S.C. § 112, first paragraph, because the claimed “sheet feeding area operable to feed ...” is a purely functional recitation with no limitation of structure.

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When a claim uses the term “means” to describe a limitation, a presumption inheres that the inventor used the term to invoke § 112, ¶ 6. *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1375 (Fed. Cir. 2003). “This presumption can be rebutted when the claim, in addition to the functional language, recites structure sufficient to perform the claimed function in its entirety.” *Id.*

As the court set forth in *LG Electronics*:

“[A] claim term that does not use ‘means’ will trigger the rebuttable presumption that § 112 ¶ 6 does not apply.” *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004) (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002)). This presumption can be rebutted “by showing that the claim element recite[s] a function without reciting sufficient structure for performing that function.” *Watts v. XL Sys.*, 232 F.3d 877, 880 (Fed. Cir. 2000) (citing *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302 (Fed. Cir. 1999)). However, the presumption “is a strong one that is not readily overcome.” *Lighting World, Inc.*, 382 F.3d at 1358.

LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364, 1372 (Fed. Cir. 2006).

Because the Appellant did not use “means” to recite the sheet feeding area in claims 15 and 26 (Fact 14), we presume that the Appellant did not intend to invoke interpretation of “sheet feeding area” under § 112, sixth paragraph. In a post-issuance claim construction, a court would then look for a lack of sufficient structure in the claim element in order to rebut the

presumption, and if such structure were lacking, construe the claim element under § 112, sixth paragraph. Although we find that the recitation of a “sheet feeding area” does not recite sufficient structure to define what is being claimed by this element¹, we decline to use this fact in the midst of prosecution of an application to rebut the presumption that § 112, sixth paragraph does not apply, where the Appellant still has the opportunity to clearly invoke § 112, sixth paragraph by amending the claims to use “means for” language if that is indeed his intent. As such, we hold that the “sheet feeding area operable to feed …” language of claims 15 and 26 does not require claim interpretation under § 112, sixth paragraph. As such, the claim element “sheet feeding area operable to feed” is a purely functional recitation in that there is no structure presented in the claim element itself, and we are not required to import structure from the Specification into the claim under 35 U.S.C. § 112, sixth paragraph. Nor is there any evidence that one of ordinary skill in the art could understand such a term to have a definite structural meaning. *See infra.*

35 U.S.C. § 112, sixth paragraph, when enacted, was a statutory response to the Supreme Court’s decision in *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946). In *Halliburton*,² the Supreme Court held invalid an apparatus claim on the ground that it used a “means-plus-

¹ *See supra*, new ground of rejection under 35 U.S.C. § 112, second paragraph.

² *Halliburton* was the culmination of a long line of cases dealing with use of terms such as “means” and “mechanisms” in claims. *See, e.g.*, A.W. Deller, *Walker on Patents*, § 166, pp. 790-794 (Deller’s Edition 1937).

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function” term which was purely functional. Such a claim was improper because the means term with a stated function merely described a particular end result, did not set forth any specific structure, and would encompass any and all structures for achieving that result, including those which were not what the applicant had invented.

In *Greenberg*, the Court of Appeals for the Federal Circuit stated:

As this court has observed, “[t]he record is clear on why paragraph six was enacted.” *In re Donaldson Co.*, 16 F.3d 1189, 1194, 29 USPQ2d 1845, 1849 (Fed. Cir. 1994)(in banc). In *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1, 71 USPQ 175 (1946), the Supreme Court held invalid a claim that was drafted in means-plus-function fashion. Congress enacted paragraph six, originally paragraph three, to overrule that holding. In place of the *Halliburton* rule, Congress adopted a compromise solution, one that had support in the pre-*Halliburton* case law: Congress permitted the use of purely functional language in claims, but it limited the breadth of such claim language by restricting its scope to the structure disclosed in the specification and equivalents thereof. See *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1041-42, 25 USPQ2d 1451, 1453-54 (Fed. Cir. 1993); *In re Fuettner*, 319 F.2d 259, 264 n.11, 138 USPQ 217, 222 n.11 (CCPA 1963). (Emphasis added.)

Greenberg v. Ethicon Endo-Surgery Inc., 91 F.3d 1580, 1582 (Fed. Cir. 1996). As the Federal Circuit explained, the statutory solution represents only a compromise.

The so-called “Halliburton rule” proscribed “conveniently functional language at the exact point of novelty.” *Halliburton*, 329 U.S. at 8. More generally, *Halliburton* proscribed purely functional claiming by prohibiting a patentee from using “broad functional claims” to “obtain greater coverage by failing to describe his invention than by describing it as the statute commands.” *Id.* at 12-13. Although the Halliburton rule may have looked for purely functional language only at the exact point of novelty, the broader concerns expressed by the Court in *Halliburton* are still valid regardless of where the purely functional claim element appears in the claim.

In particular, the Court in *Halliburton* feared the “overhanging threat” of the functional claim which “barred anyone from using in an oil well any device heretofore or hereafter invented which combined with the [prior art] machines performs the function of clearly and distinctly catching and recording echoes from tubing joints with regularity.” *Id.* at 12. The Court explained that “[j]ust how many different devices there are of various kinds and characters which would serve to emphasize these echoes, we do not know.” *Id.* The Court further explained,

In this age of technological development there may be many other devices beyond our present information or indeed our imagination which will perform that function and yet fit these claims. And unless frightened from the course of experimentation by broad functional claims like these, inventive genius may evolve many more devices to accomplish the same purpose.

Id. (citations omitted).

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This general prohibition against the use of “purely functional claim language” (and the more specific Halliburton rule) has not been completely eliminated. Rather, “purely functional claim language” is now permissible but only under the conditions of 35 U.S.C. § 112, sixth paragraph, i.e., if its scope is limited to the corresponding structure, material, or act disclosed in the specification and equivalents thereof.

In the absence of such limited construction, the concerns expressed by the Court in *Halliburton* are still applicable to prohibit the use of “purely functional” claim language. Hence, any claim that includes purely functional claim language, and which is not subject to the limited construction under 35 U.S.C. § 112, sixth paragraph, fails to meet the requirements of 35 U.S.C. § 112, first paragraph, according to reasoning in *Halliburton* and thus is unpatentable.

While the particular claim language involved in the Supreme Court's *Halliburton* decision uses the word “means,” the issue was claiming in a purely functional manner, a practice condemned by pre-existing case law, and not any particular problem associated uniquely with the word “means” as distinguished from other purely functional words and phrases. With regard to pre-existing case law around the time of the Supreme Court's *Halliburton* decision, see *In re Fuetterer*, 319 F.2d 259, 263 (CCPA 1963), wherein the Court of Customs and Patent Appeals explained:

In the *Fullam* case [*In re Fullam*, 161 F.2d 247 (CCPA 1947)], this court stated that some claims were properly rejected as “functional in claiming merely the desired result well known to

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and sought after by workers skilled in the art.” Claims directed merely to a “desired result” have long been considered objectionable primarily because they cover any means which anyone may ever discover of producing the result. See, e.g., *O'Reilly v. Morse*, 15 How. 62; *Heidbrink v. McKesson*, 290 F. 665.

When an applicant has not given notice to the public that his or her purely functional claim element is to be limited by the application of 35 U.S.C. § 112, sixth paragraph, a first USPTO concern is that the claim is indefinite under 35 U.S.C. § 112, second paragraph. A second USPTO concern is that such unlimited purely functional claiming may reasonably be construed to encompass any and all structures for performing the recited function, including those which are not what the applicant invented. Thus, it is doubly critical that the USPTO be in possession of such public notice when making a determination to grant a patent.

That is, when the limitation encompasses any and all structures or acts for performing a recited function, including those which were not what the applicant had invented, the disclosure fails to provide a scope of enablement commensurate with the scope of the claim and the claim would violate the prohibition of *Halliburton*.

We conclude that in claim construction before the USPTO, the Supreme Court’s *Halliburton* case remains viable for claims having purely functional claim language which is *unlimited* either by (1) the application of 35 U.S.C. § 112, sixth paragraph, or (2) the additional recitation of structure.

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In the present case, claims 15 and 26, which recite “a sheet feeding area operable to feed ...,” violate the rule set forth in *Halliburton*, because the claims are not limited by the application of 35 U.S.C. § 112, sixth paragraph, and they do not contain any additional recitation of structure. As such, these claims are unpatentable under 35 U.S.C. § 112, first paragraph, for lack of an enabling disclosure commensurate with the scope of the claims. Claim 31 depends from claim 26 and further defines the thickness of the sheet of paper and the stiff carton but fails to add any structure to the sheet feeding area of claim 26. As such, claim 31 is likewise unpatentable.

PRIOR ART REJECTIONS OF CLAIMS 1-6, 13, 15-18, 26, AND 31

For the reasons expressed in this opinion, claims 1-6, 13, 15-18, 26, and 31 are indefinite. Therefore, the prior art rejections must fall, *pro forma*, because they necessarily are based on speculative assumption as to the meaning of the claims. *See In re Steele*, 305 F.2d 859, 862-63 (CCPA 1962). It should be understood, however, that our decision in this regard is based solely on the indefiniteness of the claimed subject matter and does not reflect on the adequacy of the prior art evidence applied in support of the rejections.

CONCLUSIONS OF LAW

We conclude the Appellants have failed to show that the Examiner erred in rejecting claims 1-6, 13, 16-18 under 35 U.S.C. § 112, second paragraph; however, in that our reasoning for finding claim 13 indefinite is

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based on grounds different from that relied on by the Examiner, we designate our affirmance of the rejection of claim 13 under 35 U.S.C. § 112, second paragraph, as a new ground of rejection. We reverse the Examiner's prior art rejections of claims 1-3, 5, 6, 13, 15-18, 26, and 31. We further conclude that claims 13, 15-18, 26, and 31 are unpatentable under 35 U.S.C. § 112, second paragraph and claims 15, 26, and 31 are unpatentable under 35 U.S.C. § 112, first paragraph.

DECISION

The decision of the Examiner to reject claims 1-6, 13, and 16-18 is affirmed. The decision of the Examiner to reject claims 15, 26, and 31 is reversed *pro forma*. We enter a new ground of rejection of claims 13, 15-18, 26, and 31 under 35 U.S.C. § 112, second paragraph and of claims 15, 26, and 31 under 35 U.S.C. § 112, first paragraph.

FINALITY OF DECISION

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides "Appellant may file a single request for rehearing within two months from the date of the original decision of the Board."

In addition to affirming the Examiner's rejection(s) of one or more claims, this decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (2007). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

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37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Should Appellant elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If Appellant elects prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)

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